Most settop terminals are tunable. A block diagram for a prior art settop terminal is shown in **Figure 1**. Incoming signals from a CATV transmission network are coupled to an input bandpass amplifier and up-converted to a high intermediate frequency (HI-IF). The up-conversion requires a tunable local oscillator which selects a desired channel and an associated mixer. The mixer is coupled to a bandpass filter and down-converted to an IF channel using a fixed-frequency local oscillator and mixer. The output channel is filtered and forwarded to a subscriber's television receiver. Prior art settop terminals use one down-converter mixer with an oscillator having slight frequency agility to provide an output at one or two preselected channel frequencies. The output frequencies and bandwidths depend upon the transmission standard used.

In the United States, the NTSC (National Television System Committee) is the standard for color television. Other countries have chosen different systems. SECAM (*sequentiel couleur avec mémoire*) is used by France and Russia. PAL A and PAL B (phase alternation line) are used by many European countries such as Germany and the United Kingdom. Accordingly, television receivers are typically manufactured for a specific transmission standard. For worldwide use, a settop terminal must be adapted to the established broadcast standards.

U.S. Patent No. 5,640,697 teaches the use of two predetermined frequencies for each local oscillator, whereby the second oscillator frequency can be adjusted independently of the first oscillator frequency. Adjustment between the two

frequencies is used to adapt to the different output frequencies, while eliminating noise caused by the local oscillators. Similar to U.S. Patent No. 5,640,497, German Patent No. Application 4,306,578 adjusts the oscillator frequencies by a predetermined amount in order to eliminate noise. PCT International Patent Application No. 84/04637 employs two local oscillators that generate predetermined frequencies, in which the second oscillator is selected between one of two frequencies to eliminate this noise.

Accordingly, there exists a need for an inexpensive method to adapt the output of a settop terminal to a variety of television broadcast standards.